

BUSINESS MEETING  
BEFORE THE  
CALIFORNIA ENERGY RESOURCES CONSERVATION  
AND DEVELOPMENT COMMISSION

**EXCERPT RELATED TO 2005 BUILDING  
ENERGY EFFICIENCY STANDARDS**

CALIFORNIA ENERGY COMMISSION  
HEARING ROOM A  
1516 NINTH STREET  
SACRAMENTO, CALIFORNIA

WEDNESDAY, NOVEMBER 5, 2003  
10:08 a.m.

Reported by

Alan Meade

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PETERS SHORTHAND REPORTING CORPORATION (916) 362-2345

COMMISSION MEMBERS PRESENT

Robert Pernell, Chairperson

James D. Boyd, Commissioner

Arthur Rosenfeld, Commissioner

STAFF PRESENT

William Chamberlain, Chief Counsel

Scott Matthews, Chief Deputy Director

Margret Kim, Public Advisor

Betty McCann, Secretariat

Bradley Meister  
Nonresidential Buildings Office

Michael Martin  
Nonresidential Buildings Office

Tony Rigg, Supervisor  
Environmental Quality Act analysis

Bill Pennington, Manager  
Buildings and Appliance Office

Mr. Ratliff, Staff Counsel

Suzanne Korosec  
Technology Evaluation Office

Garret Shean, Hearing Officer  
Cosumnes Power Project

Timothy Tutt, Staff Counsel

Mike Kane  
PIER Renewables R&D

Allan Ward  
Research and Development Office

ALSO PRESENT

Michael Hodgson, ConSol Energy Consulting  
Bill Mattinson, SolData Energy Consulting  
David Ware, Owens Corning  
Noah Horowitz, NRDC  
Charles Cottrell, NAIMA  
Bruce Wilcox, Energy Consultant  
Rick Chitwood, Energy Consultant  
Stephen Yurek, ARI  
Misti Bruceri, PG&E  
Mitch Gutell, bp  
Steven Arita, WSPA  
Patrick Eilert, PG&E  
Diane Fellman, Esq.  
Steven Cohn, SMUD  
Kathy Peasha, Intervenor

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1 P R O C E E D I N G S

2 10:08 a.m.

3 COMMISSIONER PERNELL: The California  
4 Energy Commission meeting of November 5th will  
5 come to order. Commissioner Boyd, will you lead  
6 us in the pledge please.

7 (The Pledge of Allegiance was recited in unison.)

8 Good morning everyone. Commissioner  
9 Keese and Commissioner Geesman won't be here, they  
10 are on Commission business.

11 On the Consent Calendar we have one  
12 item, item A, Gilbert Associates, Inc. ...

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4           COMMISSIONER PERNELL: Item number five.  
5   2005 building energy efficiency standards.  
6   Possible approval of an initial study and adoption  
7   of a Negative Declaration for the environmental  
8   analysis of the '05 building energy efficiency  
9   standards. Mr. Riggs.

10           MR. RIGGS: Good morning, Commissioners,  
11   members of the public. My name is Tony Rigg, I'm  
12   a member of the Commission staff. I supervise the  
13   preparation of the Environmental Quality Act  
14   analysis for this agenda item, possible approval  
15   of the 2005 building efficiency standards.

16           Staff's analysis concluded that there  
17   would be no significant environmental impacts and  
18   recommended that the Commission adopt a Negative  
19   Declaration. Staff's analysis, conclusions, and  
20   recommendations were made available for public and  
21   agency review and comment.

22           We notified all these parties by the  
23   usual and legally required means, state  
24   clearinghouse for state agencies. All applicable  
25   Commission mailing and e-mail lists for both

1 actively involved and interested parties. Legal  
2 notice in several major newspapers, providing us  
3 with statewide coverage. And notice for posting  
4 by all county clerks.

5 To date there have been no questions  
6 asked or special disagreement whatsoever. Thus,  
7 staff stands by our analysis and conclusion that  
8 there will be no significant impacts, and  
9 recommend that the Commission certify the CEQA  
10 analysis and adopt the proposed Negative  
11 Declaration for possible approval of the 2005  
12 building efficiency standards.

13 And I'd be glad to reply to any  
14 questions.

15 COMMISSIONER PERNELL: Okay. We do have  
16 two people who want to speak to this item. So  
17 before I bring it back to the dais I'd like to  
18 call Mike Hodgson.

19 MR. HODGSON: Commissioner Pernell, I'd  
20 like to talk about item six, not item five. I  
21 apologize.

22 COMMISSIONER PERNELL: Okay. And we  
23 have Bill Mattinson.

24 MR. MATTINSON: Excuse me, same thing.

25 COMMISSIONER PERNELL: Okay, in that

1 case we'll bring it back to the dais.

2 Commissioners, on item five.

3 COMMISSIONER ROSENFELD: I move item  
4 five, we'll have our fun on item six.

5 (Thereupon, the motion was made.)

6 COMMISSIONER PERNELL: It seems that  
7 way.

8 COMMISSIONER BOYD: I'll second that.

9 (Thereupon, the motion was seconded.)

10 COMMISSIONER PERNELL: It's been moved  
11 and seconded that we approve item five, which is  
12 the Negative Declarations.

13 All in favor?

14 (Ayes.)

15 Opposed? The ayes have it.

16 Item number six. Thank you, Mr. Riggs.  
17 2005 building energy efficiency standards.  
18 Possible adoption of the '05 building energy  
19 efficiency standards. Mr. Pennington, will you  
20 brief the board please.

21 MR. PENNINGTON: Thank you,  
22 Commissioners. My name is Bill Pennington, I'm  
23 the Manager of the Buildings and Appliances  
24 Office. And I wanted to give you a quick overview  
25 of the proposed building standards project.



1           This is the 2005 energy efficiency  
2 standards adoption hearing. If you'd go to the  
3 next slide.

4           There was a number of objectives that we  
5 tried to accomplish in this project. There were a  
6 couple of statutory requirements that directed us.  
7 This is viewed as phase two of the project that  
8 was mandated by AB 970 to upgrade the building  
9 energy efficiency standards.

10           So that was part of our objectives, to  
11 accomplish that, to respond to that statute. This  
12 is also our intention to incorporate time  
13 dependent valuation, which is incorporating into  
14 the performance standards approach to the  
15 standards a way to take into account the time  
16 value of energy.

17           We also were intending to incorporate  
18 findings from public interest energy research and  
19 other Energy Commission research. This was a  
20 major effort to collaborate with the California  
21 Utilities Codes and Standards Program, and so  
22 there was a major portion of this project, the  
23 technical work for this project, was funded by the  
24 California utilities.

25           And there was a very close coordination

1 with the team that was engaged by the Codes and  
2 Standards Program with the Energy Commission's  
3 team.

4 We were also attempting to advance the  
5 Commission's goal of upgrading the quality of  
6 construction. And in particular using third party  
7 fuel verification in a greater sense to make sure  
8 that energy efficiency measures in buildings were  
9 installed the way they were designed. So we  
10 attacked that on both the residential standards  
11 side and the non-residential standards side.

12 And finally, there was direction to the  
13 Commission by Senate Bill 5X to incorporate for  
14 the first time outdoor lighting standards. So  
15 this project was attempting to meet all those  
16 objectives.

17 Next slide. Just briefly, AB 970  
18 directed the Commission to adopt and implement  
19 updated and cost-effective standards that ensure  
20 the maximum feasible reduction in wasteful,  
21 uneconomic, inefficient, or unnecessary  
22 consumption of electricity, and do that at the  
23 earliest feasible date.

24 You may recall that we conducted a  
25 emergency proceeding where AB 970 directed us to

1     adopt standards within 120 days, and the  
2     Legislature also anticipated that perhaps it would  
3     be impossible to address all things, all measures,  
4     that would meet this goal in the second bullet in  
5     only 120 days, so there was a second portion of  
6     that mandate that said that we should deal with  
7     those things in the earliest feasible date.

8             And so there were a number of things in  
9     the emergency proceeding that were identified as  
10    followup measures that should be addressed in this  
11    proceeding.

12            Next slide. The Senate Bill 5X outdoor  
13    lighting mandate directed the Commission to adopt  
14    lighting standards for outdoor lighting. And  
15    there was a very broad definition of outdoor  
16    lighting to basically being all lighting that  
17    previously the Commission had not regulated.

18            And so that includes outdoor lighting,  
19    it includes lighting in unconditioned buildings,  
20    lighting for signs, for example. So basically --  
21    we previously had been limited to lighting within  
22    conditioned buildings, and SB 5X extended that  
23    authority to other kinds of lighting.

24            Next slide. There was a major project  
25    team that worked together on this project. A very

1 large number of people were involved. About 12  
2 staff from the Commission were involved. Both the  
3 Energy Commission and the Utility Codes and  
4 Standards Program engaged consultants that have,  
5 you know, national reputations in building design  
6 and are very familiar with building codes, both  
7 within California and nationally, on a team of  
8 consultants.

9 The Energy Commission actually had two  
10 teams under contract to us. One focused on  
11 buildings and another focused on outdoor lighting.  
12 PG&E also had a major consulting team that was  
13 involved. We're talking about several firms here  
14 with different kinds of expertise devoted to this.

15 Southern California Gas Company also  
16 hired consultants to work on the project. This  
17 was a major collaborative effort that really came  
18 off well. We had a very good interaction of these  
19 teams, these various firms, 45 people or something  
20 like that worked on this together and it was a  
21 very good job.

22 This is just the schedule of the  
23 standards process. We started off with scoping  
24 the standards in a couple of workshops. We asked  
25 the public for ideas, for what changes to the

1 standards should be made. We were inundated with  
2 ideas.

3 There were about 270 ideas that were  
4 proposed to us, and the Commission basically  
5 sorted through those and figured out how to expend  
6 resources on those. We chose I think it was 33  
7 to focus on, and that's what we pursued.

8 We conducted individual workshops on the  
9 technical evaluations to evaluate the cost-  
10 effectiveness, other issues related to the  
11 measures, environmental implications perhaps,  
12 practicality issues. So those were each written  
13 up in individual technical reports, and then we  
14 took those to workshop.

15 And we had six to eight technical issues  
16 per workshop, and we ran through a series of  
17 workshops last year, last summer. We had a  
18 proposal for draft standards last fall. We held a  
19 workshop on that. We held another workshop on a  
20 second draft that was primarily lighting related a  
21 couple of weeks later.

22 We held a third workshop on a third  
23 draft in February, and then we took those  
24 proposals and we developed specific proposals in  
25 the form of strike out and underline language that

1 we would initiate a rulemaking on.

2 I should say that the scope of this is  
3 broader than just the standards. There are  
4 associated documents, and I'll get to that at the  
5 next slide. But there were multiple documents  
6 that we started the rulemaking proceedings on.

7 The Committee held a hearing on those  
8 proposals in September, and the Committee decided  
9 to respond to comments that were made at that  
10 hearing with 15-day language, so the Commission  
11 issued 15-day language, so we're here to adopt the  
12 whole package, including the 15-day language.

13 After the adoption there's significant  
14 amounts of work that's planned for implementing  
15 these standards. The next step will be to develop  
16 compliance manuals, both for residential and non-  
17 residential buildings. We'll be covering all the  
18 new material, there will be a chapter on outdoor  
19 lighting for example.

20 And those will be coming back to the  
21 Commission next spring for approval of those. The  
22 whole project was intended to adopt standards and  
23 then allow a substantial period of time for  
24 transition for the industry to get prepared for  
25 complying with the standards. So there's about a

1 two year period between the adoption date and the  
2 effective date.

3 The expectation was that we would  
4 continue our collaboration with the California  
5 utilities, to work with them to train the industry  
6 and to focus their new construction programs on  
7 helping the industry transition to the new  
8 standards. So that transition program is shown  
9 there.

10 At this point the calendar that the  
11 Building Standards Commission has put together for  
12 effective dates for building codes shows an  
13 effective date of October of 2005 for these  
14 standards.

15 Next slide. We're adopting more than  
16 just standards today. There also are associated  
17 documents. The alternative calculation method  
18 approval manuals are rules for how vendors of  
19 compliance software that we would approve should  
20 model for energy simulation purposes, the  
21 different measures and the standards.

22 And also those manuals contain criteria  
23 for complying with certain measures that you get  
24 credit for in the performance standards. And so  
25 those are very detailed manuals. There's one for

1 residential, there's also one for non-residential  
2 buildings.

3 We also put into one package appendices  
4 that previously had been in some sort of scattered  
5 places that provide detailed information that  
6 engineers and energy consultants need to  
7 consistently model buildings, and so we're  
8 adopting those joint appendices also.

9 We made numerous changes to all of these  
10 documents to incorporate the new measures, to  
11 incorporate new compliance credits, to revise the  
12 way that you model particular measures, and we  
13 made a variety of changes related to the  
14 organization of these documents and trying to be  
15 as clear as possible and to simplify where  
16 possible that information.

17 Next slide. In terms of impact, the  
18 impact has been estimated at over 180 megawatts  
19 per year of construction activity. And that  
20 particular analysis did not include all the  
21 measures. So there are a few measures that kind  
22 of were more difficult to analyze, so that  
23 actually if anything this estimate is a little bit  
24 on the conservative side.

25 These are savings that show up for each



1 year of construction. So in the first year of  
2 construction to the standards you would expect 180  
3 plus megawatts. In the second year you're going  
4 to get the savings from those buildings again in  
5 the second year, and you're going to get savings  
6 from the buildings that were built in the second  
7 year. So in that second year you're going to save  
8 twice this.

9 And it accumulates like that. It's not  
10 just sort of a savings over time, but in that  
11 particular year you're going to get that megawatt  
12 savings in that particular year. Five years out  
13 we're talking approaching 1,000 megawatts in that  
14 year, and ten years out double that.

15 So, you know, this is a very significant  
16 savings in the first year, in future years it's a  
17 major savings and a major part of the reliability  
18 objectives of the Energy Commission for the  
19 electricity system.

20 Next slide. One issue area I'd like to  
21 go over a little bit is related to new  
22 requirements for alterations to existing  
23 residential buildings. This is an area where we  
24 certainly have had requirements in the past, but  
25 there are new particular measures that are

1 important that were adopted and were proposed in  
2 these standards and that -- this is one of the  
3 things that was earmarked as an area that, in the  
4 AB 970 emergency proceeding, that we needed to  
5 spend more time on and bring forward a proposal  
6 that included these.

7           So there's a variety of questions about  
8 these proposals for alterations to existing  
9 residential buildings that I'd like to go over.  
10 First off, does the Commission have the authority  
11 to do requirements for alterations to existing  
12 residential buildings.

13           And it's important to notice that  
14 there's no prohibitions in any statute that  
15 prohibits the Energy Commission from adopting  
16 requirements for alterations to residential  
17 buildings. We have, for many years, interpreted  
18 the Energy Commission statute to cover these  
19 alterations, and we've had requirements in our  
20 standards since the very first standards that  
21 relate to these buildings.

22           In particular, the Warren-Alquist Act  
23 specifically directed the Commission to focus on  
24 alterations for residential buildings in two  
25 sections. Section 25910 directed the Commission

1 to have requirements for installation added to  
2 existing residential buildings.

3 And in Section 25402.5, which was  
4 enacted in 1993, the Commission was directed to  
5 have standards for replacement lighting. One of  
6 the noteworthy pieces of that legislation was a  
7 legislative finding and declaration that that  
8 stipulation for us to have requirements for  
9 replacement lighting was declarative of existing  
10 law.

11 And so basically what that was saying is  
12 that the Commission already has the authority to  
13 pursue these kinds of alterations. And this  
14 legislation just confirmed that.

15 Next slide. Another important thing to  
16 recognize is that alterations to existing  
17 residential buildings is covered in model codes.  
18 Federal law requires states to compare their  
19 energy codes to national consensus standards. And  
20 all of the nation consensus standards have  
21 requirements for alterations to buildings.

22 The international energy conservation  
23 code, which is a residential standard, has  
24 requirements for alterations to residential  
25 buildings. ASHRAE 90.1, which is a non-

1 residential standard, has such requirements.

2 State law requires agencies that adopt changes to  
3 building codes to consider in their adoption  
4 process provisions that are in model codes.

5 And, again, the model codes are the  
6 international energy conservation code, ASHRAE  
7 90.1. There's actually two competing standards  
8 that are considered for code adoption. The  
9 international codes reference the IECC and ASHRAE  
10 90.1.

11 The Building Standards Commission  
12 recently approved the NFPA 5000 as the base code  
13 for state codes. And NFPA 5000 adopts ASHRAE  
14 standard 90.2, which is a different residential  
15 standard than was developed at the national level.  
16 And 90.2 has requirements for alterations to  
17 residential buildings. So basically, the model  
18 codes that we're supposed to pay careful attention  
19 to have this same scope.

20 Next slide. This is a slide about the  
21 costs and the savings for key measures for  
22 alterations to residential buildings. There's  
23 basically two major ones. For replacement windows  
24 the requirements would have the standards called  
25 for -- whenever you replace windows you install

1 high performance windows, is our shorthand.

2           Actually, the standards have had  
3 requirements for double glazed windows, upon  
4 replacement, since 1992. So for about ten years  
5 we've had that requirement. We're including a  
6 requirement for low e-squared window products.  
7 Very good shading and U factor glazing products.

8           So we're not talking about the frame  
9 here, we're talking about the glazing product  
10 itself. The incremental cost that we have  
11 determined for that is \$1.00 to \$1.50 per square  
12 foot. And so on an individual 15 square foot  
13 typical window basis, we're talking about \$15 to  
14 \$22 as the upgrade.

15           If you happen to change out all your  
16 windows and replaced all those windows, which is  
17 not what the standard requires, but if that were  
18 to happen then we've estimated the cost to be \$335  
19 for that. And the savings of that, in present  
20 value terms, of \$885.

21           So this is a very cost-effective thing  
22 to do, and it's a very good thing to do for  
23 improving the energy efficiency of existing  
24 buildings and the affordability of those  
25 buildings, actually.

1           The other requirement that's significant  
2 here for alterations to existing residential  
3 buildings is duct sealing. So basically the  
4 standards call for duct sealing when HVAC units  
5 are replaced. So when air conditioners are  
6 replaced or furnaces are replaced, there's an  
7 expectation that the almost always excessively  
8 leaking duct systems are sealed at that point in  
9 time.

10           So you're not hooking up a brand new  
11 energy efficient air conditioner to a full of  
12 holes duct system that will just waste that energy  
13 savings that you were trying to accomplish with  
14 the air conditioner. Our estimate for the duct  
15 ceiling cost is about \$660?

16           This is based on utility program  
17 experience with encouraging their customers to do  
18 duct sealing, and basically it's where the HVAC  
19 contractor goes out and tries to sell duct  
20 sealing, and pitches duct sealing, and then if  
21 they get an agreement from the homeowner then  
22 they'll bring their crew out and do duct sealing.

23           So we're talking about multiple trips  
24 here from the contractor, and we're talking about  
25 a sales process of motivating the homeowner to do

1 this. With this requirement duct sealing would be  
2 required, would be associated with installing the  
3 air conditioner and furnace.

4           So this would be when the crew comes out  
5 to replace the air conditioner or furnace they do  
6 duct sealing at that time. And it would be a  
7 requirement. It's not something that's being  
8 pitched, this is an expectation that it will  
9 happen. And so the expectation actually is that  
10 the cost will be substantially lower than this  
11 \$660 estimate that we've had.

12           The potential savings is going to be  
13 massive for sealing ducts. I mean, basically,  
14 every one in this room should be thinking about  
15 sealing their duct system at home because there's  
16 really major savings possible here. And you can  
17 see that the savings is several times the value of  
18 the cost. So we view this as a very cost-  
19 effective thing, and the standards introduce it as  
20 a requirement.

21           Next slide. We recognize that it won't  
22 necessarily be easy to go from a situation where  
23 you don't have these requirements to a situation  
24 where people are complying with them readily. And  
25 we recognize that this will be somewhat of an

1 enforcement difficulty.

2 Building officials are going to have to  
3 be working with the individual homeowners to make  
4 them aware of the standards and working with  
5 contractors to make them aware of the standards,  
6 and to get them to do it. And we recognize that  
7 this is not kind of a slam dunk really easy thing  
8 to do, that this is going to take an effort on  
9 everyone's part.

10 And so one of the things that we wanted  
11 to make clear is that the Energy Commission is  
12 intending to work cooperatively to get the word  
13 out on these requirements, to provide training and  
14 information for contractors.

15 The utilities all run very good training  
16 programs aimed at contractors -- PG&E, SoCal Gas  
17 Company, SDG&E -- all run good training programs  
18 aimed at contractors, and we intend to work with  
19 them to get contractors trained.

20 We also have excellent working  
21 relationships with the trade associations that  
22 represent the contractors, and the IHACI, which is  
23 a contractor's group located in southern  
24 California, has a very good working relationship  
25 with the Energy Commission.



1           They put out a newsletter that goes to  
2   30,000 contractors. And they are regularly now  
3   including information from our newsletter in their  
4   newsletter, and we intend to work closely with  
5   them.

6           We also intend to work with the Air  
7   Conditioning Contractor's Association to get the  
8   word out. We also intend to pursue working with  
9   the Contractor's State Licensing Board on this.  
10   We really haven't done a lot of this in the past  
11   in terms of trying to work together with them to  
12   get the word out to contracts, about contractor's  
13   obligations. But we see a big opportunity here.

14          There's a couple of organizations that  
15   have very good working relationships with  
16   Contractor's State Licensing Board and getting  
17   information out. CBIA and Pacific Gas and  
18   Electric Company have experience working with the  
19   Contractor's State Licensing Board. And we intend  
20   to try to collaboratively work with them and the  
21   Contractor's State Licensing Board to get the  
22   information out.

23          Also, we expect to try to provide  
24   information to homeowners. Homeowners understand  
25   the benefit of making these improvements when

1 they're altering their house, and the Contractor's  
2 State Licensing Board, again, is trying to reach  
3 consumers trying to communicate what consumers  
4 should look for in hiring a contractor.

5 So there's an interest there and an  
6 outreach avenue there that we intend to try and  
7 coordinate with. And again the utilities have  
8 communication to their customers about measures  
9 that are important in existing buildings.

10 And so these are things that we're  
11 intending to pursue as a way to try to help with  
12 getting people to wanting to comply. These  
13 measures are potentially very useful to the  
14 homeowners. They're potentially a extremely  
15 valuable service that contractor's can provide and  
16 market to their customers. And so these are  
17 natural things for customers to want to know  
18 about, and for us to try to pursue that way.

19 So this is a way that we intent to try  
20 and augment just the normal enforcement activity  
21 of a building department.

22 So basically those are the comments I  
23 wanted to make related to the standards. There is  
24 an errata of changes, non-substantive changes,  
25 that we would like you to consider and adopt in

1 conjunction with the 45 day language and 15 day  
2 language that you have.

3 At your pleasure we would like to  
4 respond to any questions you might have of  
5 commenters. Or if you would like us to explain  
6 the standards to commenters, or react to  
7 commenters' comments, we're prepared to do that  
8 with either the staff that worked on the project  
9 or any number of consultants that worked for the  
10 Energy Commission or for PG&E on this.

11 COMMISSIONER PERNELL: All right. Thank  
12 you, Mr. Pennington. Are there any questions from  
13 the dais so far for Mr. Pennington? We do have a  
14 number of people that want to speak on this item,  
15 so it will come back up here, but are there any  
16 questions right now for Mr. Pennington from the  
17 dais?

18 COMMISSIONER BOYD: I'll hold my  
19 questions.

20 COMMISSIONER PERNELL: All right. Is  
21 there anyone on the phones? Mr. Wilcox.

22 MR. WILCOX: Yes, Commissioner, this is  
23 Bruce Wilcox.

24 COMMISSIONER PERNELL: Good morning.  
25 And who else? Mr. Chitwood?

1           MR. CHITWOOD: Yes, I'm here and I'd  
2 like to hold my comments.

3           COMMISSIONER PERNELL: All right. There  
4 might be some questions as we go through this, so  
5 please be available on the phone. The way I would  
6 like to proceed is that I will call your name, and  
7 you will have three minutes. And the reason here  
8 is because we have so many people here that want  
9 to speak to this item.

10           If there are any technical questions we  
11 have staff available. We will then bring it back  
12 to the dais for the Commission's either questions  
13 or comments, and I will call for a motion either  
14 to accept or reject the item.

15           All right, so we'll start with Mike,  
16 you're up first. And then we have Mr. Mattinson  
17 will be second. Please state your name for the  
18 record.

19           MR. HODGSON: Mike Hodgson, Consol,  
20 representing the California Building Industry  
21 Association. Both Bill and I would like to thank  
22 you, Commissioner Pernell, we thought we'd be at  
23 the bottom of the list after making our mistake.

24           I'd like to complement staff, especially  
25 Bill and Brian, for their collaborative and

1 thorough efforts in developing the 2005 standards.  
2 Many of us in this room have a history of 20 years  
3 of doing this and did not have grey hair when this  
4 started.

5           And this has been, by far, the most  
6 thorough revision, and thoughtful revision. CBI  
7 supports the standards as they are proposed, but  
8 has some general discussion items that we'd like  
9 to just throw out that staff is aware of and is  
10 paying attention to.

11           First, as always, the most important  
12 part of the standards is actually the software and  
13 the residential manual to the building industry.  
14 We just wanted to remind staff that implementation  
15 needs to be timely. We have had issues with that  
16 in the past.

17           And that also, now that we are on time  
18 dependent valuation, that we do not lose the  
19 annual consumption data that eventually will make  
20 it to the marketplace, hopefully in an energy  
21 efficient mortgage that's cost-effective and  
22 encourages energy savings in both existing as well  
23 as new construction

24           The other issue that's probably the most  
25 substantial issue is the biggest change to the

1 standards in the building industry's mind is the  
2 changes in lighting. We have had numerous  
3 discussions with the lighting industry about the  
4 availability for product and their ability to  
5 manufacture product and what product to use.

6 CBI is very nervous about these issues,  
7 but has been coerced and cajoled to say that these  
8 products can be made and will be available in the  
9 marketplace. So what we would really want to  
10 emphasize is there needs to be a credit on the  
11 street as soon as possible to encourage this  
12 market transformation.

13 We've had this discussion with staff. It  
14 is plausible, and we're glad to hear they support  
15 the approach and we're looking forward to that.

16 In addition to that we also think there  
17 needs to be substantial training. I spent  
18 yesterday actually walking job sites in the Tracy  
19 area for fun and profit, and I noticed the  
20 lighting, because it is a concern.

21 And there were numerous 13 watt  
22 fixtures. There were numerous fixtures that were  
23 not rapid on, and we're going to have to change  
24 the way we do business. And that's going to be,  
25 in the construction industry, painful, as it

1 always is, and we're going to need the  
2 Commission's support and help. And we're  
3 anticipating that.

4 There are two minor issues that we still  
5 disagree with the Commission on, and that is we  
6 think that the water heating wrap under the line  
7 to the kitchen is not cost-effective. We have a  
8 disagreement of national labs and consultants.

9 But we'll continue to analyze that  
10 through our building America process, which has  
11 technical support from national labs, and give the  
12 Commission staff that analysis when it's complete  
13 this summer.

14 The other issue that we think could be  
15 simpler is the duct efficiency or the duct credit.  
16 The duct insulation is now going to be varied  
17 between 4.2 R6 and R8. We went through that  
18 discussion at our last meeting in September that  
19 we do not think staff's analysis was cost-  
20 effective. We still stick by that.

21 However, to still keep it simple for the  
22 industry we suggested R6 throughout the state, and  
23 staff is maintaining 4.2 R6, and R8 depending on  
24 the climate zone. So we'd like them to visit  
25 that, but we understand that that's the issue and

1 the energy savings that staff has explained to us  
2 is appropriate per their analysis. So we just  
3 wanted to not go down with the ship here and make  
4 that comment.

5           Lastly, my comment would be staff is  
6 very concerned, and should be, about their  
7 proposal of alterations. The reason Bob Raymer is  
8 not here today -- and he apologizes for that -- is  
9 that he's teaching a seminar to the fall training  
10 workshops which are today and I believe tomorrow  
11 in Ontario. The seminar happens to be on Title 24  
12 -- you may want to have someone attend that, just  
13 for your own safety.

14           But the building officials are very  
15 concerned -- and I'm not speaking for them --  
16 about this alteration issue. One of the ways that  
17 we can help to resolve this issue, and the  
18 building industry itself is very interested in  
19 getting existing homes more efficient, is for the  
20 Energy Commission to complete their HERS  
21 rulemaking.

22           Something that opened I think five or  
23 six years ago, we have a C-HERS process for new  
24 construction, we need to continue that process for  
25 existing construction so that the existing



1 homeowner gets good advice on what to install for  
2 energy efficient measures that are cost-effective.

3 We look forward to resolving any issues  
4 that are outstanding, which we think are minimal  
5 at this time, we support the staff and the smooth  
6 adoption of the 2005 building standards. We  
7 appreciate the staff's time, it's been a long  
8 process, and we compliment them. Thank you  
9 Commissioners, I'll answer any questions.

10 COMMISSIONER PERNELL: Thank you. Any  
11 questions? Thank you. Mr. Mattinson -- and then  
12 we'll have Mr. Ware.

13 MR. MATTINSON: Thank you,  
14 Commissioners. My name is Bill Mattinson, I'm  
15 representing the California Association of  
16 Building Energy Consultants. We have a long  
17 history of appearing and supporting the Commission  
18 on these efforts to upgrade and enhance the  
19 standards, and I'm here today to congratulate  
20 staff and their consultants on the work they've  
21 done.

22 We've had our disagreements over the  
23 details of some issues, but we're not concerned  
24 enough, or we're comfortable enough, to endorse  
25 the current proposal. And we expect great energy

1 savings in the future.

2           There's one issue that I must confess I  
3 made an error -- I came back, did make a  
4 recommendation to the staff a month or so ago  
5 about some language that required energy analysts  
6 to notify HERS providers if the building under  
7 analysis required fuel verification measures, and  
8 for a number of reasons we felt that was both  
9 unnecessary and obstructive, and we cited language  
10 that we thought should be changed or deleted to  
11 staff, and we want to thank them for agreeing with  
12 us and taking care of that.

13           But just this morning we found one  
14 little sentence that still remains in there, and  
15 I'd like to call that to your attention. It's  
16 Section 7.8.4. It instructs the building  
17 department to verify that this notification has  
18 been made.

19           I know that was an oversight because  
20 four other places in the document that language  
21 was struck, including in the summary right at the  
22 beginning of Chapter Seven on Alterations and  
23 Additions, where it crossed that reference out.

24           So that's just one additional strikeout  
25 that needs to be made to be consistent with the

1 language that's already in here. With that, I  
2 again want to thank staff, and I also want to  
3 thank my colleagues at CABAC, Gary Farber and Mike  
4 Gabel, who worked consistently and diligently with  
5 staff to clarify many issues, from definition to  
6 intent, and I'm looking forward to the  
7 implementation of these standards. If there's no  
8 questions, I'll thank you.

9 COMMISSIONER PERNELL: Thank you.

10 MR. PENNINGTON: A comment on that. We  
11 certainly didn't mean to leave in that reference  
12 that you've found, and we'd like to add that to  
13 the errata that we propose to adopt.

14 COMMISSIONER PERNELL: All right. Mr.  
15 Ware, and then Mr. Horwitz.

16 MR. WARE: Good morning, Commissioners,  
17 my name is David Ware. I'm the Manager of Codes  
18 and Regulations for Owens Corning. Owens Corning  
19 has a long history of research and development in  
20 the building arena, and I personally have a long  
21 history of working with this Commission and as  
22 well working on behalf of Owens Corning and the  
23 products that we manufacture.

24 Owens Corning supports the standards as  
25 they are being readied for adoption. However, I

1 have noted in the letter that I e-mailed to the  
2 Commission last night a couple of modifications  
3 that I have suggested that I trust that you will  
4 honor. They are in the vein of editorial I  
5 believe, and I believe making these minor changes  
6 will help improve the overall integrity of the  
7 standards themselves.

8 In Section 150J2 of the standards, water  
9 piping, there is an exception number five that was  
10 added to the 15 day language. In that exception  
11 it culls out when pipe insulation is not needed,  
12 when pipe insulation is in an attic covered by  
13 insulation.

14 The language culls out blown attic  
15 insulation, and there's no data to support the  
16 thermal properties of blown insulation to be any  
17 different nor greater of any other kind of  
18 insulation that would be in the attic, such as  
19 glass fiber bats or blankets.

20 And I believe that was just an oversight  
21 by staff, by adding that semantic descriptor for  
22 attic insulation, and I would ask that you delete  
23 the word "blown" from that exception number five.

24 The other editorial recommendation that  
25 I would suggest is in the residential ACM manual.

1 I confess I did not pick this up until just the  
2 other day re-reading the final ACM manual, and I  
3 should have really noted this earlier on in one of  
4 the committee hearings.

5 But there is a reference in Section  
6 6.2.4, controlled ventilation crawl spaces, for  
7 mineral wool insulation materials. Mineral wool,  
8 the term mineral wool is culled out in the title  
9 and there is also a descriptor for direct contact,  
10 where it mentions the term "mineral wool."

11 Mineral wool is technically the wrong  
12 term to be used in the context of what's being  
13 described here. What's primarily being described  
14 are conditions for which insulation, like density  
15 insulation, should have some controls to ensure  
16 the integrity of the material.

17 ASTM defines mineral fiber as being  
18 those materials, inorganic materials, made up of  
19 glass fiber and slag or rock wool materials. So  
20 in essence the term "mineral fiber" ought to be  
21 inserted as opposed to the term mineral wool.

22 The way it's described right now the  
23 mineral wool language really only refers to a  
24 certain class of glass material, and not to the  
25 generic term that would cover both rock wool

1 materials and fiberglass materials. So I trust  
2 that that was indeed the intent, and that's just  
3 an oversight to be consistent with ASTM  
4 requirements.

5           Lastly, I have a couple of comments.  
6 The first comment Mike Hodgson alluded to  
7 regarding the proposed requirements for duct R  
8 values. There's been considerable research on  
9 that by staff and outside parties, and certainly  
10 not all stakeholders have found common ground on  
11 that particular issue.

12           The standards, as they are proposed now,  
13 will indeed continue the prevalence of all kinds  
14 of duct R values and material types in the  
15 marketplace. There will be no standardization of  
16 duct material for the foreseeable future until  
17 hopefully the next cycle of potential changes.

18           That will indeed drive costs up. And so  
19 I would hope that in the next cycle of standards  
20 the Commission will look very deeply at  
21 standardizing the R value requirement across all  
22 building types, so that we can get some  
23 standardization, help enforcement and the  
24 marketplace, and truly show consumers the kind of  
25 energy efficiency that's expected for new

1 buildings.

2 My last comment has to do with the  
3 things that are lacking in the standards. One of  
4 the most glaring omissions in this very thorough  
5 process, a process that has not been undertaken  
6 since the 1992 standards, is any improvements to  
7 the thermal envelope, the building shell. And I  
8 would implore this Commission, in the next cycle,  
9 to look deeply at those improvements.

10 Improvements to the building shell are  
11 the most durable, the most cost-effective, and the  
12 longest lasting efficiency measures that can be  
13 made to buildings. And I would impress upon the  
14 Commission and staff and all the stakeholder in  
15 this process that we all pull this together  
16 amongst ourselves prior to the next cycle.

17 We indeed strive for common ground on  
18 that issue, and we work diligently to look at  
19 improvements to the building shell for the future  
20 buildings of this state. Thank you.

21 COMMISSIONER PERNELL: Thank you. One  
22 question, David. You mentioned the R value. Is  
23 there a difference in cost between the R values?

24 MR. WARE: The short answer is yes.  
25 Whenever you add more material to a product, the

1     simple fact that there is more material in that  
2     product drives up the cost. More material also  
3     means that the processing or the manufacturing of  
4     that material may take more time, or it may  
5     require improvements into the mechanics of the  
6     manufacturing process.

7             The sheer bulk of the material also  
8     means that there may be more material, or less  
9     material that can be stored. On the other hand,  
10    more material, in the case of duct R value, means  
11    greater efficiency. And so there are economies of  
12    scale that can be gained by ensuring that certain  
13    product types not only move forward from the  
14    manufacturing stream but ultimately are stocked  
15    and provided to consumers.

16            We have mixed signals right now in the  
17    marketplace to the value of what R value is really  
18    cost-effective.

19            COMMISSIONER PERNELL: My understanding  
20    of your suggestion is that we go with one single R  
21    value throughout all of our sixteen climate zones?

22            MR. WARE: If that, that would be the  
23    best of all worlds. If clearly the analysis could  
24    show that the greater good was served by one  
25    single R value -- and we have a lot of examples



1     like that within the code right now.

2                 So I think that it's quite possible that  
3     we can reach that agreement by working with the  
4     building industry, working with the insulation  
5     manufacturers, working with representatives of the  
6     consumer groups. We may find that there are minor  
7     differences in, I think, re-looking at this  
8     subject, than what we currently have.

9                 Right now we have a big dichotomy  
10    between what's required mandatorily in the non-  
11    residential standards, and what's being required  
12    mandatorily and from an energy budget standpoint  
13    in the residential standards.

14                COMMISSIONER PERNELL: Thank you.

15                MR. PENNINGTON: One comment I'd like to  
16    make. We would like to accept the recommendation  
17    for editorial changes that Dave mentioned, and add  
18    those to the errata also.

19                COMMISSIONER BOYD: Both for blown  
20    insulation and the mineral wool?

21                MR. PENNINGTON: Yes.

22                COMMISSIONER BOYD: Okay. And Mr.  
23    Chairman, my only comment would be that obviously  
24    there's quite a bit of disagreement still on the  
25    duct credit and the R values and the categorical

1 statement that standardization equals, or lack of  
2 standardization equals increased costs didn't ring  
3 too true with me just yet until folks debate this  
4 a little bit more. So obviously it needs  
5 additional study.

6 COMMISSIONER PERNELL: All right. Noah,  
7 you're up.

8 MR. HOROWITZ: Good morning,  
9 Commissioners and staff. My name is Noah  
10 Horowitz, and I'm a senior scientist with NRDC,  
11 the Natural Resources Defense Council. We have  
12 over 500,000 national members, with over 100,000  
13 residing in California alone. We've been an  
14 active participant throughout this proceeding and  
15 prior Title 24 proceedings, and I too am starting  
16 to turn grey.

17 I'm here today to express our strong and  
18 unconditional support for the recommended changes  
19 to Title 24 as outlined in the 15 day language.  
20 The changes are the result of an extremely open  
21 and thorough public process that included over 14  
22 days of public workshops, and lots of conference  
23 calls and meetings in between, I can testify to  
24 that as well.

25 As a result of the hard work by the CEC

1 staff and their consultants, the proposed code  
2 reflects the consensus of a very wide range of  
3 stakeholders, including environmentalists,  
4 builders, energy compliance consultants, and  
5 utilities across the state. This is a very rare  
6 and significant achievement that shouldn't be  
7 overlooked.

8 My guess is beyond realizing that the  
9 Sacramento Kings are a better team than the  
10 Warriors, that group had little agreement at the  
11 beginning. To get this far is noteworthy.

12 Per the analysis of the CEC, the changes  
13 will save over 180 megawatts of power demand. The  
14 standards will reduce both peak and non-peak  
15 electricity use, as well as natural gas usage,  
16 which is becoming an increasingly costly  
17 commodity.

18 Once the standard has been in effect for  
19 three years the state will save more than 500  
20 megawatts of demand, and that's the equivalent of  
21 a large new power plant without any of the adverse  
22 environmental impacts. So we applaud that.

23 I want to take a minute to talk about  
24 alterations, since that seems to be one of the  
25 issues that will probably be discussed more in the

1 future. The 2005 changes cover not only new  
2 buildings, but also additions and alterations to  
3 existing buildings.

4 Looking at some of the CEC data, the  
5 alterations alone are responsible for over 70  
6 megawatts of the savings, roughly 40 percent of  
7 the overall total. We understand some parties may  
8 challenge the Commission's ability to regulate  
9 alterations to existing buildings, and since NRDC  
10 was a key sponsor of the legislation at the time,  
11 I thought it would be worthwhile to provide some  
12 very brief legislative history on this matter.

13 Per the Warren-Alquist Act, passed in  
14 1975, alteration requirements are explicitly  
15 within the scope of the Commission's authority.  
16 And in addition, SB 639, which Mr. Pennington  
17 referenced, clarified the Commission's authority  
18 related to lighting, but more importantly for  
19 today, it reiterated the Legislature's intention  
20 to cover alterations to existing buildings.

21 The alteration requirements included in  
22 the code deal primarily with the requirement to  
23 use energy efficient windows, and to ensure that  
24 existing and new duct systems are tight. Both  
25 these measures are extremely cost-effective, and

1 will save building owners money, as well as ensure  
2 comfort for the building's occupants.

3           Recognizing the tight time frame here, a  
4 couple of quick additional comments. We want to  
5 commend the CEC for its leadership, for tightening  
6 the residential lighting requirements and areas of  
7 the code that many of us felt was long broken.  
8 And we share the comments by counsel and CBIA, and  
9 we too are working to ensure that more efficient  
10 products are more available.

11           We also want to applaud you for making  
12 cool roofs a requirement for non-residential low  
13 slope buildings, for adding the daylighting  
14 requirements and lighting controls for large, low-  
15 rise commercial buildings, for adding the exterior  
16 lighting requirements, and lastly for helping to  
17 ensure that the relocatable classrooms are energy  
18 efficient, as this is a big energy and money saver  
19 for our cash strapped schools.

20           I wouldn't be doing my job if I didn't  
21 ask for more. We recognize that this was a very  
22 thorough and comprehensive change, and some  
23 changes were made to the multi-family portion of  
24 the code, and we think for the next rulemaking  
25 that you take the time that's needed -- and

1     there's a lot of lead time there -- to start from  
2     the bottom up and rewrite the multi-family part of  
3     the code. We've been patching things on, and we  
4     need to do a better job there.

5             In closing, we urge the Commission to  
6     approve the 15 day language today, and want to  
7     commend the Commission's staff and its consultants  
8     for their open process, willingness to consider  
9     various alternatives, and for all their hard work.

10            I also want to thank the statewide  
11   investor-owned utility group for all their  
12   research and financial support, and to CBIA for  
13   their two-way dialogue and data exchanges  
14   throughout this process. Thank you very much.

15            COMMISSIONER PERNELL: Commissioner  
16   Rosenfeld?

17            COMMISSIONER ROSENFELD: I just didn't  
18   take notes fast enough. This figure of a fraction  
19   of 180 megawatts that comes from alterations was  
20   interesting. Can you just state that again?

21            MR. HOROWITZ: Sure. I took that from  
22   the CEC documents. It was 70 megawatts are due to  
23   the savings from alterations, and that's for both  
24   residential and non-residential buildings.

25            COMMISSIONER ROSENFELD: So it's like a

1 third of the whole thing.

2 MR. HOROWITZ: A little more than a  
3 third.

4 COMMISSIONER ROSENFELD: Thank you.

5 COMMISSIONER PERNELL: Thank you. Mr.  
6 Cottrell.

7 MR. COTTRELL: Good morning, I'm Charles  
8 Cottrell, I'm Director of Technical Services,  
9 representing the North American Insulation  
10 Manufacturers Association. First I want to thank  
11 staff for addressing many of NAIMA's concerns  
12 throughout this process, and also including us in  
13 the process of developing new standards.

14 There is one outstanding item I would  
15 like the Commission to address. The residential  
16 ACM contains criteria for high quality insulation  
17 installations. These criteria includes things  
18 such as gaps and voids and density of the  
19 materials, things that we have seen are problems  
20 in the field. And if remedied could give a much  
21 better performance for insulation in the field.

22 On significant item that was not  
23 addressed in the high quality insulation protocol  
24 is that of drying times for both mineral fiber and  
25 cellulose insulation products. Moisture directly

1 affects the performance of insulation. A typical  
2 2,200 square foot home could have as much as 160  
3 gallons of water added in the process of  
4 installing insulation in the walls.

5           There is a Canadian study that states  
6 "after the wet sprayed cellulose was installed,  
7 the plywood sheeting moisture level increased to  
8 26 percent after 30 days, decreased to near-  
9 original levels, 15 percent, after 160 days, and  
10 dried one percent more by the end of the test in  
11 420 days."

12           "About 30 percent of the siding nails  
13 examined were at least partly corroded, especially  
14 where they penetrated wood, because both the  
15 nail's protective coating and the amount of  
16 moisture buried."

17           Then, under wood fungi it states "the  
18 cellulose insulation contained a wood fungicide,  
19 but traces of fungi were found in the north wall  
20 between the plywood and the framing timber." It  
21 goes on to say that "the drying rate was affected  
22 by the air temperatures, humidity, ventilation of  
23 the insulation cavity, orientation, time, time  
24 allowed before installing gypsum boards and other  
25 construction conditions."



1           I think it's clear that materials should  
2   be dry before they're covered up, and that is one  
3   thing that NAIMA has proposed, is either a flat  
4   drying time or a percent moisture content for all  
5   insulation materials before they're covered up.  
6   And I urge the Commission to add this to the  
7   requirements for the insulation protocol.

8           COMMISSIONER PERNELL: Okay. Do you  
9   know what the typical drying time is for these  
10   products?

11          MR. COTTRELL: Well, again, it's going  
12   to vary very much with the temperature and  
13   humidity. One of the things I had submitted  
14   earlier in the process was a table that gave some  
15   temperature and humidity conditions and times that  
16   would be associated with those.

17          Those were just a proposal, I don't  
18   think that that is probably a very realistic way  
19   to go. But I do know that the cellulose  
20   insulation manufacturers association does have a  
21   requirement, or they state that most materials dry  
22   within 24 to 48 hours.

23          I think that's a very, I think that's  
24   probably on the short side. But it's, as far as I  
25   know, for their industry the only guidance that's

1     available. And I think that something is better  
2     than nothing.

3             COMMISSIONER BOYD: Mr. Cottrell, your  
4     October 17th letter asked for a minimum 48 hours,  
5     so you referenced to the manufacturers  
6     recommendation being 24 to 48, you're opting for  
7     48, as I read your letter?

8             MR. COTTRELL: I believe that, based on  
9     at least some of the data I've seen, that -- you  
10    know, it talks in here, on this Canadian test,  
11    about as much as 180 days. So I think that two  
12    days is probably one the most conservative, or  
13    least conservative side.

14            COMMISSIONER BOYD: Global warming  
15    hasn't caught up to Canada just yet. Mr.  
16    Pennington, any staff comments on this?

17            MR. PENNINGTON: Yes, on the line are  
18    our contractors that worked on this protocol, both  
19    Bruce Wilcox and Rick Chitwood. And it seems like  
20    it would be useful to get their reaction to this  
21    if that's all right.

22            MR. WILCOX: Yes, thank you Bill, this  
23    is Bruce Wilcox. I'd like to make several points  
24    in response to Mr. Cottrell's comments. I think  
25    the first one is that we discussed this issue in

1 our industry review committee process during the  
2 development of the standards.

3 And we decided that there was no  
4 significant impact from the moisture on the energy  
5 performance of the insulation systems, and that we  
6 were primarily concerned with the energy aspects  
7 here. So the moisture doesn't seem to be an issue  
8 for that.

9 The second thing is that no one, during  
10 the process of the standards development, or on  
11 this industry committee that worked on the  
12 insulation quality, no one presented any evidence  
13 of moisture problems in California housing that  
14 had been caused by moisture in the insulation. So  
15 as far as we know, this is not a situation that is  
16 causing problems in California housing.

17 The third thing is, and a very practical  
18 issue, is that as far as we know there's no method  
19 to measure the moisture content. So the  
20 requirement that specified that it had to be dry,  
21 there's no simple, straightforward, easily  
22 referencable test or approach to verify that.

23 And finally the installation standards  
24 require that installers follow manufacturers  
25 installation instructions. So in the case of the

1 cellulose manufacturers instructions, those are to  
2 be followed by the installers, and if 48 hours is  
3 required, then they're obligated to follow those  
4 instructions.

5           So we don't think there's a necessity  
6 for adding an additional requirement that would be  
7 expensive and cumbersome to solve a problem that  
8 in fact may not be even a problem in California.

9           COMMISSIONER PERNELL: Are you familiar  
10 with the study that was quoted, the Canadian  
11 study?

12           MR. WILCOX: Commissioner, I'm not  
13 familiar with that study. This is the first time  
14 I've heard that study cited or quoted, and I've  
15 never had a chance to look at it.

16           COMMISSIONER PERNELL: Commissioner  
17 Rosenfeld?

18           COMMISSIONER ROSENFELD: I guess I'd  
19 like to ask either Bill Pennington or Mr.  
20 Cottrell, I don't have a clue as to whether an  
21 additional 12 hours, for example, would really be  
22 a big problem and expense.

23           MR. PENNINGTON: The problem here is,  
24 first off, this is not an energy issue. It  
25 doesn't have a big impact on energy. It would

1     introduce potentially a complication for checking  
2     for, you know, a non-energy item in the course of  
3     following this protocol. And this is a fuel  
4     verified protocol, basically. So in order to get  
5     compliance credit you need to get a HERS rater to  
6     do the verification.

7             If we were to ask the HERS rater to  
8     somehow verify that the contractor had waited the  
9     right amount of time for the insulation to dry  
10    before the wall was closed in I don't know how  
11    they would do that. I don't know what they would  
12    do. They'd ask the contractor when they did the  
13    job, or they'd tear down the wall and check the  
14    moisture, I'm not sure what they would do.

15            This doesn't seem to be an appropriate  
16    thing to include in the protocol, and as Bruce  
17    said, we discussed this considerably with the  
18    industry task force that was working on this  
19    protocol. And there was not a consensus to  
20    include this kind of requirement in that protocol.

21            COMMISSIONER ROSENFELD: I guess I would  
22    ask Charles Cottrell, is there some sort of simple  
23    thing you would urge Pennington to do?

24            MR. COTTRELL: Well, as I stated, the  
25    minimum drying time I think is probably the most

1 practical for the construction industry to deal  
2 with. And I don't think that 48 hours would be  
3 considered cumbersome.

4 And simply a statement or a requirment  
5 in the checklist that states, you know, the  
6 material will be not covered up or contained  
7 within the wall for a minimum of 48 hours.

8 And if i could just respond to a couple  
9 of other items that I heard. The statement that  
10 there's no evidence of a problem in California, I  
11 don't think that there's really any difference in  
12 a home built in California than in another area.  
13 If there's evidence of a problem and fungi growing  
14 in some walls, it would tend to happen wherever,  
15 provided the climate conditions are similar.

16 The statement that there's no method  
17 available, no simple method. There are meters  
18 available that you can check for the moisture  
19 content of the wall, I don't think that, you know,  
20 that's necessarily what I'm asking for.

21 That would be the ideal thing, that, you  
22 know that there's a given moisture content before  
23 it's covered up, that would be the safest. And  
24 the statement about following the manufacturers  
25 directions.

1           The manufacturers directions are not  
2   required to give a required time within them, so  
3   some may, some may not have those drying times  
4   contained in them, but this recommendation that I  
5   have was from their manufacturer's association.  
6   And it is only a recommendation, not a  
7   requirement.

8           COMMISSIONER PERNELL:   Okay.   Mr.  
9   Cottrell, can you get Ms. Kim a copy of the study,  
10   or at least leave us some reference to where we  
11   can find the study?

12          MR. COTTRELL:   Absolutely.   I have  
13   copies of the study, and that's another thing I  
14   was going to mention, I did submit that with my  
15   earlier comments.

16          COMMISSIONER PERNELL:   All right, Ms.  
17   Kim, raise your hand please.   So we will look at  
18   that.

19          COMMISSIONER ROSENFELD:   Charles, I  
20   guess I have one last question, since I'm the  
21   Chair of the R&D Committee.   You both said,  
22   Pennington and you said that there isn't any cheap  
23   -- or Bruce said there wasn't any cheap, reliable  
24   meter now, but there don't seem to be any  
25   requirements which have stimulated that so much.

1           Would either of you opine if -- this is  
2   a nationwide problem, it's not a California  
3   problem. If there were a regulation that there  
4   had to be a test, and there needed to be some  
5   simple metric, do you guess that it would be  
6   expensive to develop a meter, or that a meter  
7   would appear on the market?

8           MR. COTTRELL: Absolutely not. There is  
9   a meter, a Delmhorst meter, which is used  
10  typically for testing the moisture content of  
11  wood. It's a probe that measures the resistance  
12  across, and that changes with the moisture  
13  content.

14           And I have heard of adaptations to that,  
15  with longer probes that could be put into the  
16  material that are available. I don't know what  
17  the cost of those are, or, you know, the  
18  practicality of getting those out into the field.

19           But again, I'm more for having some sort  
20  of way to at least give a certain level of  
21  confidence that the material is dry before it's  
22  covered up, and i think that probably timing is  
23  maybe the simplest way of doing that.

24           COMMISSIONER ROSENFELD: Is best.  
25  Thanks.



1           COMMISSIONER PERNELL: Thank you. I  
2 think that's it. Mr. Yurek.

3           MR. YUREK: Stephen Yurek, general  
4 counsel for the Air Conditioning and Refrigeration  
5 Institute. I just have a couple of quick comments  
6 on some comments we had filed related to some  
7 errors or mis-references in the documents as well,  
8 some technical concerns that we put forward. And  
9 those are addressed in the written comments that  
10 we have filed.

11           One of the things that I wanted to  
12 discuss on this issue -- I'm here also  
13 representing the guest appliance manufacturers,  
14 the home appliance manufacturers as well as the  
15 electrical manufacturer's associations -- are the  
16 issue of the application of Title 24 to federally  
17 covered products and equipment.

18           And before I go into my standard  
19 statement that I have given, I have a question,  
20 because we have been reviewing the language of  
21 Title 24 and it's interaction with Title 20. And  
22 I believe it was the intent of the Commission to  
23 regulate the manufacturing installation of  
24 federally covered products and equipment.

25           And I guess that's a question I have to

1 the staff or to the Commission, that Title 24 was  
2 intended to regulate those type of products for  
3 the installation or air conditioners, different  
4 home appliances, as well as gas furnaces and other  
5 appliances, is that correct?

6 COMMISSIONER PERNELL: Let me refer you  
7 to Mr. Pennington. Or, Mr. Ratliff, who is now  
8 our counsel on this.

9 MR. RATLIFF: I believe that Mr. Yurek  
10 is referring to Section 110 and 111 of the  
11 building standards. Am I correct about that?

12 MR. YUREK: Right.

13 MR. RATLIFF: These are existing  
14 provisions in the building standards. They have  
15 existed in the building standards in approximately  
16 this form for probably at least 20 years. They  
17 are unchanged by anything that is within the scope  
18 of the rulemaking upon which you are going to take  
19 action today.

20 So they are not within the scope. Those  
21 sections simply are not changed from their  
22 existing wording. So the issue that I think is  
23 being raised is one that is not within your  
24 purview today, but was I think properly within the  
25 purview of the courts. And that is still being

1 played out.

2 MR. YUREK: I guess the question that I  
3 have, though, is it the intent of this Commission  
4 to regulate federally covered products under Title  
5 24?

6 COMMISSIONER PERNELL: Well, I don't  
7 think that's a proper question. You've heard Mr.  
8 Ratliff say that some of this stuff is going to be  
9 played out in the courts, so regardless of what  
10 answer you're trying to get from the Commission  
11 here, the fact of the matter is it's in the court.

12 So you're not going to get an answer.  
13 Is there anything else?

14 MR. YUREK: Yes, well, the way the  
15 current language, even though Title 24 has not  
16 changed, Title 20 has changed, through the  
17 Commission's adoption of that title.

18 And if you look at what is written in  
19 Title 24 as it references and defines the products  
20 that are covered by Title 24, it says "those  
21 products that have California standards, as  
22 adopted by Title 20."

23 Under Title 20, section 1605, it states  
24 clearly that California does not set standards for  
25 federally covered products. This provision was

1 also reiterated by the Commission in its filings  
2 before the district court, saying it did not have  
3 the authority to set the standards for federally  
4 covered products and equipment.

5 Therefore, as written in Title 20, there  
6 are no California standards for federally covered  
7 products and equipment. And therefore, used in  
8 section 100 part H, as well as in 111, those  
9 federally covered products and equipment would not  
10 be covered under Title 24.

11 And our concern is, if that is the case,  
12 then we don't have an issue with what is being  
13 proposed in Title 24. And so it's the change to  
14 Title 20 that has caused a potential conflict that  
15 the Commission possibly did not recognize, by not  
16 having California standards for federally covered  
17 products or equipment.

18 COMMISSIONER PERNELL: Okay. So we will  
19 note your concern. But again, I mean, I don't  
20 think you're going to get a response as long as  
21 there's some litigation that is being addressed.  
22 And if Mr. Ratliff wants to respond he can.

23 MR. RATLIFF: Well, Commissioner, I  
24 would just, I think, again, this is a question of  
25 the existing language that is unchanged by this

1 rulemaking. I think what Mr. Yurek is suggesting  
2 is that if in fact the courts ultimately rule that  
3 the Energy Commission may not have these kinds of  
4 standards, it would be appropriate to change the  
5 building standards to reflect that.

6 And I would certainly agree with that,  
7 but that hasn't been determined yet. And  
8 certainly that's not before you today. So --.

9 MR. YUREK: Just in conclusion then, as  
10 I have stated in the past, we would recommend --  
11 the four manufacturing associations that I  
12 represent here -- that you do not approve the  
13 Title 24 that is before you today, for the purpose  
14 of as it relates to federally covered products and  
15 equipment.

16 It is in violation of the district  
17 court's order firmly enjoining the regulation by  
18 this Commission of federally covered products and  
19 equipment covered by the Energy Policy Act, as  
20 well as by trying to do so through Title 24 and  
21 the business codes.

22 So, because of those concerns not being  
23 addressed, we would recommend that you not adopt  
24 that until those concerns are addressed. Thank  
25 you.

1 COMMISSIONER PERNELL: Thank you. All  
2 right. I have a -- I can't read this, but it  
3 looks like Misti -- Ms. Bruceri.

4 MS. BRUCERI: Good morning,  
5 Commissioners. My name is Misti Bruceri, I'm with  
6 Pacific Gas and Electric Company. As a major  
7 contributor to the development of the 2005  
8 standards, PG&E wholeheartedly supports their  
9 adoption today.

10 It has been brought to our attention  
11 that many people have expressed concern that,  
12 because the standards contain many new  
13 requirements, it will be extremely difficult to  
14 implement and enforce them. We don't dispute the  
15 fact that the transition to the new standards will  
16 be challenging.

17 We'd also like to state today that in  
18 the coming years PG&E intends to continue working  
19 with the Commission to provide support to  
20 facilitate that transition through not only our  
21 codes and standards program but also through our  
22 residential and non-residential new construction  
23 program, both of which are based upon the  
24 standards. And through our Energy Centers located  
25 in San Francisco and Stockton, that provide

1 training to essentially all the stakeholders in  
2 the industry.

3 To further that effort, PG&E will soon  
4 begin an assessment to address the educational,  
5 infrastructure, and process needs of contractors,  
6 design professionals, builders, developers, and  
7 building and planning department staff. The study  
8 will be completed in early 2004, and will guide  
9 our followup efforts in the educational arena.

10 In addition, PG&E plans to conduct  
11 significant work on the acceptance requirements,  
12 testing the implementation process prior to the  
13 code effective date. This work will also help  
14 identify training needs for all stakeholders, and  
15 facilitate a smooth transition to the new  
16 standards. Thank you.

17 COMMISSIONER PERNELL: Thank you. Any  
18 questions? We appreciate PG&E's collaborative  
19 effort with us on this. All right, I have Mitch  
20 Gutell.

21 MR. GUTELL: Gentlemen, my name is Mitch  
22 Gutell. I'm the Energy and Electrical Systems  
23 Manager for BP. In California you know us as  
24 Arco, the AM/PM stores. I wanted to thank the  
25 staff for their openness and receptiveness to our

1     comments regarding the outdoor lighting,  
2     especially in regards to gas stations and the  
3     canopies and hardscape around there.

4                 We were able to make our case, and I  
5     believe we've reached a very fair agreement, and  
6     that is reflected in the 15 day and also in some  
7     of the errata that was issued. So therefore we  
8     would like to simply support the staff  
9     recommendations in this area, and urge you to  
10    accept the standard as written. Thank you.

11                COMMISSIONER PERNELL: Thank you very  
12    much. Seeing no questions, Mr. Ariba.

13                MR. ARIBA: Good morning, Commissioners.  
14    My name is Steve Ariba with the Western States  
15    Petroleum Association. I'll keep my comments very  
16    brief. I just want to echo Mr. Gutell's comments.  
17    We too support the proposed outdoor lighting  
18    standards.

19                We would also like to commend and  
20    acknowledge Mr. Pennington and Mr. Flamm for their  
21    willingness to work and listen to our concerns and  
22    address our concerns. I'm sure Gary's happy that  
23    I won't need to be calling him anymore.

24                But again, we appreciate their work, and  
25    their willingness to work with us. So thank you



1 very much.

2 COMMISSIONER PERNELL: And thank you.  
3 Patrick?

4 MR. EILERT: Misti covered it.

5 COMMISSIONER PERNELL: Okay. For the  
6 record, you're representing PG&E in support. Just  
7 for the record.

8 COMMISSIONER BOYD: Duly noted.

9 COMMISSIONER PERNELL: Okay. That's all  
10 of the cards I have on item number six. And --

11 MR. CHITWOOD: Commissioner?

12 COMMISSIONER PERNELL: Yes?

13 MR. CHITWOOD: I'd like to add -- this  
14 is Rick Chitwood, I'd like to add a brief comment.  
15 In response to Mr. Cottrell's siting of the  
16 Canadian study, I do have that study in front of  
17 me, and I have a couple of points regarding its  
18 applicability.

19 It obviously may be a stretch to apply a  
20 Canadian study to California weather conditions,  
21 but there's a couple of other points. The houses  
22 tested in the study were constructed to Canada's  
23 R2000 energy efficiency standards, which means  
24 that it's much tighter for ventilation and air  
25 filtration than California houses, approximately

1 three times tighter for air filtration than a  
2 typical California house, so drying times would  
3 obviously be slower on the Canada house.

4 And the conclusion is just a simple one  
5 sentence conclusion. It concludes that wet  
6 cellulose insulation nearly saturates wood  
7 framing, but within six months the framing will  
8 dry almost to the level before installation, even  
9 during winter. And of course that's a statement  
10 pertaining to Canada winters.

11 And I have one other brief statement  
12 regarding Mr. Pennington's point on alterations  
13 and the requirement for duct sealing. Now I would  
14 be wearing my hat as a trainer for the California  
15 Building Performance Contractor's Association.

16 As we look at the existing housing  
17 stock, and major duct leakage reduce the amount of  
18 savings potential for duct sealing. In addition  
19 to that, of course, we see that that requirement  
20 will also increase the industry awareness of the  
21 extent of the savings and get more contractors out  
22 there understanding the importance of that.

23 COMMISSIONER PERNELL: All right. Thank  
24 you for the clarification. Are there any other  
25 comments from anyone on the phone? Are there any

1 other comments from anyone in the audience?

2 Seeing none, hearing none, I'll bring this back to  
3 the dais.

4 Commission's comments? If none --

5 COMMISSIONER BOYD: Mr. Chairman, I just  
6 wondered if staff need to summarize any of the  
7 letters we received where no one testified today,  
8 for the record?

9 MR. PENNINGTON: I don't think so. That  
10 would be challenging for me to try to do that.

11 MR. RATLIFF: Well, Commissioners, if I  
12 may, there is one provision that is not properly  
13 part of the errata which I wanted just to make  
14 sure did come to your attention that we are not  
15 including in our adoption the amendment to Section  
16 100A, which is an exception one to Section 100A,  
17 pertaining to historical buildings.

18 We will not change the language of that  
19 exception, based on the request of the state  
20 Historic Buildings Board. And that is in your  
21 adoption order that has been prepared for today.  
22 I just wanted to call it to your attention so that  
23 you're aware of that.

24 It's simply a no action on that item.

25 There will be no change in the existing

1 regulation.

2 COMMISSIONER PERNELL: Thank you, Mr.  
3 Ratliff. Commissioner Boyd, is there some --?

4 COMMISSIONER BOYD: Well, Mr. Chairman,  
5 I just wanted to offer the staff an opportunity to  
6 acknowledge a letter that we all just got from the  
7 California Sign Association, just so those people  
8 know their letter was received, is in the record,  
9 and properly reviewed by all the Commissioners  
10 before making their decision today. I have no  
11 further comment though.

12 COMMISSIONER ROSENFELD: I'm ready to  
13 move adoption of the building standards, as  
14 amended, with the handout that we have here, and  
15 some verbal amendments by Bill Pennington.

16 (Thereupon, the motion was made.)

17 COMMISSIONER BOYD: Mr. Chairman?

18 COMMISSIONER PERNELL: There is a motion  
19 to adopt the '05 building standards with the  
20 errata. Mr. Boyd?

21 COMMISSIONER BOYD: Excuse me for being  
22 premature there. I was ready to second that  
23 motion with some comments, in the way of  
24 compliments, to both the staff and all the  
25 cooperators in this project.

1                   (Thereupon, the motion was seconded.)

2                   This is a very impressive, long-term,  
3 hair-graying experience apparently for lots of  
4 people. I have no sympathy for those of you who's  
5 hair is slightly gray, look what the electricity  
6 crisis did to me.

7                   In any event, I just want to commend  
8 everybody for the effort here, it's certainly been  
9 a Herculean task, a long task, and I think they've  
10 done an outstandingly good job. And to receive,  
11 basically, lots of positive recommendations and  
12 kudos today is quite encouraging.

13                   So my commendations to all involved.  
14 And I think this is a giant leap forward for the  
15 state that always has to be the cutting edge state  
16 in areas like this. So I'm very pleased with what  
17 I've seen.

18                   COMMISSIONER PERNELL: Commissioner  
19 Rosenfeld?

20                   COMMISSIONER ROSENFELD: Me, too.

21                   COMMISSIONER PERNELL: Well, I guess I  
22 would third on the comment. I also want to say  
23 that I want to commend staff on their meeting with  
24 the lighting industry.

25                   I know that was very contentious at

1 times, but to have the commitment and the patience  
2 from both the industry as well as that, to work  
3 those issues out certainly makes my job a lot  
4 easier. And I thank everyone up here.

5 So, Commissioners, there's a motion and  
6 a second on the adoption of the '05 building  
7 standards and the errata.

8 All in favor?

9 (Ayes.)

10 Opposed? Ayes have it. Thank you all  
11 for coming.

12 (applause)

13                   COMMISSIONER PERNELL: Okay. Is there  
14 any other business to come before this Commission?  
15 Seeing none, hearing none, this meeting is  
16 adjourned.  
17 (Thereupon the meeting ended at 12:15 p.m.)

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